

**WE CLAIM:**

1 1. A method of enhancing the reproductive performance of a sow which comprises  
2 feeding to a sow during gestation and, optionally, during lactation, breeding and/or  
3 prebreeding amounts of L-carnitine or a salt thereof and a trivalent chromium salt sufficient  
4 to enhance the reproductive performance of said sow.

1 2. The method of claim 1 wherein, during gestation, the sow is feed from about 9 to  
2 14,000 mg/day of L-carnitine or its salt and from 0.05 to 5  $\mu$ g/day of said trivalent chromium  
3 salt and, during lactation, and from about 20 to 34,000 mg/day of L-carnitine or its salt and  
4 from 0.1 to 10  $\mu$ g/day of said trivalent chromium salt.

1 3. The method of claim 1 wherein L-carnitine and chromium picolinate or chromium  
2 nicotinate are fed to the sow.

1 4. A method of enhancing reproductive performance in a sow which comprises feeding  
2 to a sow, during gestation and, optionally, during lactation, breeding and/or prebreeding a  
3 sow diet supplemented with amounts of L-carnitine or a salt thereof and a trivalent chromium  
4 salt sufficient to enhance the reproductive performance of said sow.

1 5. The method of claim 4 wherein the sow diet, administered during gestation and  
2 lactation, is supplemented with from 20 to 1500 ppm of L-carnitine and 20 to 1000 ppb of a  
3 trivalent chromium salt.

1 6. The method of claim 5 wherein the sow diet is supplemented with L-carnitine and  
2 chromium picolinate or chromium nicotinate.

1 7. A gestating sow diet supplemented with amounts of L-carnitine or its salts and a  
2 trivalent chromium salt which are effective to enhance the reproductive performance of the  
3 gestating sow.

1 8. The gestating sow diet of claim 7 wherein the sow diet is supplemented with from 20  
2 to 1500 ppm of L-carnitine and 20 to 1000 ppb of a trivalent chromium salt.

1 9. The gestating sow diet of claim 7 wherein the diet is supplemented with L-carnitine and  
2 chromium picolinate or chromium nicotinate.

1 10. A lactating sow diet supplemented with amounts of L-carnitine or a salt thereof and a  
2 trivalent chromium salt which are effective to enhance the reproductive performance of the  
3 lactating sow in the second parity.

1 11. A lactating sow diet of claim 10 wherein the sow diet is supplemented with from 20  
2 to 1500 ppm of L-carnitine and 30 to 1500 ppb of a trivalent chromium salt.

1 12. A lactating sow diet of claim 11 wherein the feed is supplemented with L-carnitine and  
2 chromium picolinate or chromium nicotinate.

1 13. A feed supplement comprising:  
2 (a) from 40 to 60 parts of L-carnitine or a salt thereof;  
3 (b) from .5 to 4 parts of a trivalent chromium salt;  
4 (c) from 25 to 50 parts of a carrier; and  
5 (d) from 10-25 parts of water.

1 14. The feed supplement of claim 13 wherein component (a) is L-carnitine and component  
2 (b) is chromium (III) picolinate or chromium nicotinate.

1 15. The feed supplement of claim 13 wherein component (c) is silica.